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## ORIGINAL LECTURES.

### MEANING AND HISTORY OF LARYNGOSCOPY AND KINDRED METHODS OF EXAMINATION.

A Lecture delivered at the University Medical College, New York,

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**GENTLEMEN**—Among the means of making ourselves acquainted with diseases of the throat, laryngoscopy and kindred methods of exploration are by far the most important. We must to-day inquire into the meaning and history of these methods.

*Laryngoscopy* (*larynx*, and *scopeo*, to "view,") is a term used to designate the method of rendering the interior of the larynx accessible to view in the living subject.

*Rhinoscopy* (*rhin*, the "nose," and *scopeo*) denotes the method of inspecting the interior of the nose and the pharyngo-nasal space. It is divided into *pharyngeal rhinoscopy*, the method of inspecting these parts through the mouth, and *anterior rhinoscopy*, the method of looking into the nostrils.

*Oesophagoscopy* is the method of dilating and inspecting the interior of the oesophagus.

*Tracheoscopy* is the mode of inspecting as much of the air-passages below the larynx as possible; and by *pertracheal laryngoscopy* and *tracheoscopy* are meant laryngoscopy and tracheoscopy practised through an opening into the trachea from without.

The principle upon which laryngoscopy is founded is very simple. It is that a small mirror, previously warmed to prevent its being tarnished by the breath, may, by means of a long handle, be introduced into the fauces, and so held there that rays of light entering through the widely-open mouth impinge against it and illuminate the organs to be examined, while the image of those organs is reflected into the eye of the observer. The theory is elucidated at a glance by a diagram representing some rays of light emanating in a horizontal direction from a luminous point, to impinge upon a plane surface directed obliquely downward, and to be reflected in accordance with the optical law that the angle of reflection is equal to the angle of incidence. It is on the same principle as that of which ladies avail themselves when they place in an oblique direction, outside of an upper front window, a mirror which reflects the image of the street and front door into the room, so that they can see who passes and who rings the bell, and be "at home" or "out," as they choose to instruct the servant, without any danger of being themselves seen. I am in the habit of explaining this principle still more familiarly by holding up my hand vertically, with closely-approximated fingers, and the thumb behind, so that the observer can see my thumb-nail

only by means of a mirror held above in an oblique direction.

On looking directly into a person's throat, we can see only in a horizontal direction; by means of the little mirror we can look "round the corner," or in a vertical direction, either downward into the larynx or upward into the pharyngo-nasal space. The parts brought under the control of the eye by laryngoscopy, and which otherwise are either completely invisible or seen only with difficulty and in rare instances, are the posterio-inferior portion (base or root) of the tongue, the glossal insertion and posterior surface of the palato-glossal fold,\* the glosso-hyoid folds, the posterior surface and portions of the tonsils, the infra-tonsillar glands, the supra-tonsillic glands, the glosso-epiglottic ligament or frænum, the glosso-epiglottic sinuses or valleculæ, the palato-pharyngeal fold, the pharyngo-epiglottic fold, the hyo-epiglottic ligaments, the capitulum of the hyoid bone, the epiglottis, the ary-epiglottic folds, the corniculum Wrisbergii or projecting extremity of the cuneiform cartilages, the nodules of Santorini or supra-arytenoid cartilages, the arytenoid cartilages, the inter-arytenoid fold, the posterior wall of the pharynx down to its contact with the arytenoid and cricoid cartilages, the pharyngo-laryngeal or pyriform sinuses, the upper cavity of the larynx with all its boundaries and contents, as the epiglottic cushions, central and lateral gutters, ventricular folds, entrances to the ventricles of Morgagni, the upper surfaces and free edges of the vocal bands, the vocal processes (the columella of Morgagni's gland, when sufficiently developed), and the anterior wall of the lower cavity of the larynx. The posterior part of the mucous membrane of the glottis, and portions of the lower cavity of the larynx, can usually not at all or but very imperfectly be seen.

Pharyngeal rhinoscopy reveals the posterior surface of the soft palate, the upper posterior wall of the pharynx in its whole extent, with its tonsil-like glands, the orifices of the Eustachian tubes, the Rosenmüller's fossæ, the posterior nasal septum, the posterior nares, the mucous membrane covering the turbinated processes of the ethmoid bone, the mucous membrane of the posterior portion of the turbinated bone; in short, the whole pharyngo-nasal space, with its orifices, projections, etc. Under favorable circumstances, the eye reaches the covering mucous membrane of the nasal bones and of the plate of the ethmoid.

Anterior rhinoscopy shows the interior of the nostrils, the anterior portion of the turbinated bone, a portion of the middle concha, and a portion of the floor and septum of the nasal cavity. Under very favorable circumstances, the posterior wall of the pharynx, and even the orifices of the Eustachian tubes, have been seen by Voltolini; while Czermak

\* I adopt for the anterior and posterior half-arches the appellation proposed by Dr. Harrison Allen (see Transactions of the American Medical Association for 1872). The improved nomenclature in other respects, as, for instance, ary-epiglottic folds, ventricular folds, vocal bands, etc., I introduced a number of years ago. See, mainly, Transactions of the New York Academy of Medicine, vol. ii., part xii., 1863; Laryngoscopic Medication, New York, Wood & Co., 1864; Transactions of the American Medical Association, 1865; and articles in various periodical publications.

has succeeded in recognizing in the dead subject the nasal opening of the lachrymo-nasal duct.

By cesophagoscopy we may see the upper portion of the interior of the cesophagus.

Tracheoscopy shows the anterior wall, and sometimes the lateral walls, of the trachea for a more or less considerable distance down,—under favorable circumstances, down to the bifurcation, and even the interior of the right bronchus.

Pertracheal laryngoscopy shows the inferior surface of the glottis, and various portions of the lower cavity of the larynx,—sometimes, also, portions of the upper cavity; and pertracheal tracheoscopy, portions of the walls of the trachea not otherwise visible.

In the practical application of these methods obstacles present themselves which we shall discuss in detail in subsequent lectures. They can usually be overcome by skill, patience, and perseverance. At first it was supposed that very few persons could bear the mirror in the mouth; but it was soon found, as Czermak had predicted it would be, that the difficulty arose chiefly from the inexperience and awkwardness of the investigator. The number of patients in whom the larynx and adjacent structures cannot be brought into view diminishes with increasing experience and ability of the examiner. The percentage, at first stated to be very high, gradually fell to twenty-five, as I reported it to be ten years ago: it has now, with experienced laryngologists, become so low that I am bound to say that a case of non-success is of quite rare and exceptional occurrence.

The value of the methods has long been, and by many still is, under-estimated; on the other hand, a few one-sided enthusiasts have gone to the other extreme. In the first place, the mere possession and use of the instruments do not enable every one to derive much benefit from them; for after we can see we do not necessarily know: we must be able to interpret what we see. Furthermore, as to diseases of the larynx, the mistake has been made of supposing that the laryngoscope is to take the place of all other means of recognizing pathological conditions; but, gentlemen, the laryngoscope is but *one* of the diagnostic means with which I shall endeavor to make you familiar, although in point of fact it is, as I said at the beginning of the lecture, the most important one of all. To ignore its value—as is done even to-day by many physicians—is a still greater mistake than to overestimate it, for, “whereas before we saw not, now we see.” In the practitioner’s encounter with laryngeal disease its non-employment or employment makes all the difference that exists between the condition of one who endeavors to grope his way in the gloom of the darkest night, and that of one who walks securely under the light of the mid-day sun.

In pursuing the history of any important discovery or invention, we cannot fail to be struck with the steady but gradual march of improvement. Although the discoveries of a Galileo, a Newton, or a Columbus, of a Jenner, a Harvey, or a Bichat, and the inventions of a Gutenberg, a Fulton, or a Davy, of a Chamberlain, a Laennec, or a Helmholtz,

may, when their practical results are worked out, burst like a lightning-flash upon the world at large, the patient student finds the road leading to them covered with forerunners and prophets. Perchance he finds a long record of vain endeavors and fruitless labors, of partial or unrecognized success. He finds how near many a man has been to a grand invention “without making it;” how many times a principle discovered has been allowed to slumber long before being applied to what afterwards seem obvious practical uses; and how often an improvement demonstrated has fallen into oblivion until rediscovered or revived. All this but shows that human knowledge progresses not by sudden leaps, but with continuous, measured steps, and not in a straight line, but in a spiral.

Laryngoscopy forms no exception to the rule here implied. Dentists seem to have used a little mirror in the mouth for their purposes from time immemorial; but who first conceived the idea of so introducing a mirror into the fauces as to reflect and permit inspection of the interior of the larynx, it is impossible to say. Paul of Aegina described, under the name of *glossotochus*, an instrument for inspecting the mouth and pharynx,—possibly the same or nearly the same as the *speculum oris* described and figured by Ambroise Paré (Op., Lyon, 1641, p. 190), Fabricius Hildanus (Op., Frankfurt ad Moenum, 1646, p. 1042), Scultetus (*Armentarium Chirurgicum*, 1655), and others.\* More than a hundred and twenty-five years ago, Levret, of Paris, employed a mirror in the exploration of the fauces, and successfully used it in operating on polypus in the throat, as the extension of nasal polypus.† More than sixty years ago, Bozzini, of Frankfort-on-the-Main, in a pamphlet on The Illumination of the Cavities and Internal Spaces of the Living Animal Body,‡ described what he calls a very simple instrument for examining the throat, but what in its entirety was really so complicated and cumbrous an apparatus that it was soon forgotten. To both Levret and Bozzini I shall refer again when speaking of the history of rhinoscopy.

Nearly fifty years ago, Cagniard de Latour, the celebrated physicist, endeavored to behold the living vocal bands in working-order by introducing a small mirror into the back of the throat; and, although he did not succeed in seeing more than the epiglottis, he was, so far as is at present known, the first who practised laryngoscopy.§

\* For the references mentioned I am indebted to Sir George Duncan Gibb. See his various publications on the subject, but especially *The Laryngoscope in Diseases of the Throat*, third edition, London, 1868, p. 3.

† *Observations sur la Cure radicale de plusieurs Polypes de la Matrice, de la Gorge et du Nez, opérée par de nouveaux Moyens inventés par M. Levret, Maître en Chirurgie, etc.* Paris, Delaguette, 1749, pp. 106 and 500, plates 6.

‡ *Der Lichtleiter oder Beschreibung einer einfachen Vorrichtung und ihrer Anwendung zur Erleuchtung innerer Höhlen und Zwischenräume des lebenden animalischen Körpers.* Von Philipp Bozzini, Weimar, 1807, pp. 6 and 23, plates 4.

§ “M. Cagniard de Latour s’est ensuite introduit dans le fond de l’arrière-gorge un petit miroir, espérant qu’à l’aide des rayons solaires et d’un second miroir, il pourrait apercevoir l’épiglotte et même la glotte; mais par l’emploi de ces moyens il n’a pu découvrir que l’épiglotte, et d’une manière imparfaite.”—*Journal de l’Institut*, No. 225, quoted in *Physiologie de la Voix et de la Parole*, par le Dr. Edouard Fournié, Paris, Adrien Delahaye, 1866, p. 352. Fournié, in his “Etude pratique sur le Laryngoscope,” etc., Paris, 1863, p. 8, gives to Gerdy the credit of having been the first to examine the throat with the mirror; but that is a mistake.

A few years later, Senn, of Geneva, tried in the same manner, but with no better success, to inspect the interior of the larynx of a child on whom he was about to perform tracheotomy. He ascribed his failure to the small size of his mirror; while Morell Mackenzie\* thinks it arose really from the non-illumination of the larynx. Senn insisted, however, upon the possibility and value of the practical employment of the mirror at least in adults, and recommended its use in suitable cases.†

On the 18th of March, 1829, Benjamin Guy Babington, of London, at a meeting of the Hunterian Society, exhibited an instrument which he proposed to call a *glottiscope*. "It consisted of an oblong piece of looking-glass, set in silver wire, with a long shank. The reflecting portion is placed against the palate, whilst the tongue is held down by a spatula, when the epiglottis and upper part of the larynx become visible in the glass. A strong light is required; and the instrument should be dipped in water, so as to have a film of the fluid upon it when used, or the halitus of the breath renders it cloudy."‡ It is claimed§ that Dr. Babington invented and employed this instrument without having any knowledge of the previous labors in the same direction, and he is called the "real discoverer," the "original inventor," etc.

On the other hand, it has been said|| that he could not well have obtained a view of the vocal cords, much less of parts beyond, because, instead of elevating, he depressed the epiglottis; and he himself, more recently, has declared "that he had seen ulceration on the epiglottis, but he confessed that he did not contemplate looking through the glottis."¶

In 1832, Selligues, a mechanician of Paris, himself a patient, independently of his predecessors, devised a laryngeal mirror attached to the extremity of a tube, the light being thrown upon it through another tube. With this apparatus Bennati is said to have obtained a view of the whole interior of the larynx.\*\* After the same pattern Sanson made a laryngeal speculum for Drs. Troussseau and Belloc in 1836; but Troussseau himself is said to have stated that he had never employed it,†† and in their book it is by no means favorably spoken of.‡‡

\* Description of the First Laryngoscope, etc.,—London Lancet (American edition), July, 1864, p. 412.

†† Je fis construire un petit miroir pour le porter au fond du pharynx et chercher à voir la partie supérieure du larynx et de la glotte; mais je renonçai à son emploi, vu la petitesse de l'instrument. Toutefois je crois que ce moyen peut être employé," etc. The case reported by Senn occurred in the year 1827, and was brought before the Paris Academy by Duptyren and Duméril on the 10th of December of that year, but the account of the attempted laryngoscopy was not published until two years later, viz., in the *Journal des Progrès*, 1829, p. 231: this is doubtless the reason why Verneuil fixes its date as 1829 in his article on the history of laryngoscopy in the *Gazette hebdomadaire de Médecine et de Chirurgie*, Paris, 1863, x., No. 13.

‡‡ London Medical Gazette, March 28, 1829, vol. iii. p. 555.

§ Thomas Windsor on the Discovery of the Laryngoscope,—British and Foreign Medico-Chirurgical Review, January, 1863, p. 209; Morell Mackenzie, Description of the First Laryngoscope, loc. cit.; George D. Gibb, Proceedings of the Royal Medical and Chirurgical Society; London Lancet (Am. ed.), July, 1864, p. 412, etc., etc.

¶ Merkel, Die neueren Leistungen auf dem Gebiete der Laryngoskopie, Schmidt's Jahrbücher, vol. cxix., 1863, No. 9; Moura-Bourouillon, Gazette Hebdomadaire, 1863, x., No. 13.

\*\* Report of the Proceedings of the Royal Medical and Chirurgical Society; London Lancet (Am. ed.), July, 1864, p. 413.

\*\*\* Physiologische und pathologische Studien über die menschliche Stimme. Von F. Bennati. Aus dem Französischen in's Deutsche übersetzt. Mit 3 lithographischen Tafeln. Weimar, Voigt, 8vo, 1833.

†† Merkel, loc. cit., probably after Moura-Bourouillon, loc. cit.

‡‡ Cet instrument, dont il ne faut point s'exagérer l'utilité, est d'une ap-

In 1838, Baumès, of Lyons, exhibited to the medical society of that city a speculum for examining the throat, consisting of a mirror attached to a stem of wood or whalebone. §§

In 1840, Liston, of London, speaks of the laryngeal mirror in connection with "ulcerated glottis."¶¶

In 1844, Warden, of London, invented a prismatic speculum with which he succeeded in seeing the interior of the larynx. ¶¶

In 1846, Avery, of London, invented an apparatus for the examination of the larynx, consisting of an illuminating lamp and mirror, both supported by one stem, which was to be held between the operator's teeth, and a tube with a small mirror placed at one end at an angle of forty-five degrees, which was to be introduced into the patient's mouth. \*\*\*

Eyrel, of Vienna, a music-teacher, claims to have used, also in 1846, for the same purpose, a rectangular glass prism fastened to one end of a wooden stem, while a mirror was fastened to the other. ¶¶

Jacobi, of New York, had an oval glass mirror made in 1854, one and a half inches long and one inch broad, and attached to a flexible metal handle, with which he states he "succeeded in seeing the interior of the larynx of a gentleman who, having constitutional syphilis, had long attributed a morbid sensation in the region of the larynx to the probable presence of syphilitic ulcerations; but repeated inspection showed that there were no such local lesions." ¶¶

Garcia, a Spaniard, a *maestro* of singing (brother of Madame Malibran), while residing in Paris and London, employed the laryngeal mirror, principally on himself, but also on other healthy persons, in order to study the mechanism of the human voice, and his researches were read before the Royal Society

plication très-difficile, et il n'est guère plus d'un malade sur dix qui puisse en supporter l'introduction. Il est une difficulté qui à elle seule suffirait pour dégoûter à jamais de se servir de cet instrument, c'est la présence de l'épiglotte. Cet opercule a une grande largeur, et il recouvre si exactement la partie supérieure du larynx qu'il empêche totalement que la représentation de cet organe puisse être répétée dans le miroir; et de plus, la lumière projetée sur l'instrument tombe directement et nécessairement sur la face linguale de l'épiglotte, et l'ombre de celle-ci couvre précisément le larynx et le dérobe complètement à la vue." Troussseau et Belloc, *Traité pratique de la Phthisie laryngée, de la Laryngite chronique, et des Maladies de la Voix*, Paris, 1837, p. 179.

¶¶ "A l'extrémité d'une tige de bois ou de baleine cylindrique est placé un miroir de la largeur d'une pièce de deux francs, dont on peut faire varier l'inclinaison à l'aide d'une vis de rappel. Par ce moyen on peut reconnaître facilement les inflammations, engorgements, ou ulcérations que l'on ne pouvait que soupçonner, à l'extrême postérieure des fosses nasales, au larynx et dans quelques parties du pharynx. L'usage de cet instrument, très-facile d'ailleurs, est d'une utilité incontestable." Compte-Rendu des Travaux de la Société de Médecine de Lyon, depuis le 1 Juillet, 1836, jusqu'au 30 Juin, 1838, sous la Présidence de M. Janson, par L. A. Rougier, Lyon, 1840, p. 62.

|| "A view of the part may sometimes be obtained by means of a speculum, such as a glass as is used by dentists, on a long stalk, previously dipped into hot water, and introduced with its reflecting surface downward and carried well into the fauces." Robert Liston, *Practical Surgery. With Fifty Engravings on Wood*. Third edition, London, 1840, p. 417.

¶¶ "The epiglottis was immediately seen, but it was only when efforts to swallow were made that the arytenoid cartilages and glottis were raised out of concealment and brought brilliantly to show their picture in the reflecting surface of the prism."—A. Warden, London Medical Gazette, May 24, 1844, vol. xxxiv. p. 256; London and Edinburgh Monthly Journal of Medical Science, vols. iv., v., 1844-1845,—more especially vol. v. p. 552; Windsor, loc. cit.

\*\*\* Avery had published no description of his instrument, but had shown it to many medical men of London. *Vide Medical Times and Gazette*, vol. ii., 1860, p. 111; Yearsley, *Introduction to the Art of Laryngoscopy*, London, 1862; Gibb, *Diseases of the Throat and Windpipe*, second edition, London, 1864, p. 443, etc.

†† Physiologie der menschlichen Tonbildung, nach den neuesten Forschungen gemeinschaftlich dargestellt. Leipzig, 1860, p. 140.

‡‡ Verbal communication made to me some years ago.

of London on the 24th of May, 1855.\* His manner of proceeding he describes as follows:

"It consists in placing a little mirror, fixed on a long handle suitably bent, in the throat of the person experimented on, against the soft palate and uvula. The party ought to turn himself towards the sun, so that the luminous rays falling on the little mirror may be reflected on the larynx."

For autolaryngoscopy, or examination of one's own larynx, he adds, "The little mirror is illuminated by means of a second one destined to receive the rays of the sun. The image is reflected first on the little mirror, whence it is sent to the external mirror."†

Cutter, of Woburn, in Massachusetts, invented in 1856 an instrument, at present in my possession, with which the laryngeal cavity and surrounding parts can be well inspected. It consists of a hollow cylinder of metal, open at one end, with a square opening at the bottom near the other extremity, in which a prismatic reflector is immovably fixed.

But, notwithstanding all that had thus been accomplished, laryngoscopical explorations remained only isolated experiments, not followed by important results as to practical medicine, until subsequent to the employment of a mirror for examining laryngeal diseases by Ludwig Türk, of Vienna, at the Vienna General Hospital, in the summer of 1857, and the investigations of Johann N. Czermak, of Cracow, but at the time residing in Vienna, during the winter of 1857-8. Indeed, it is probable that the whole of the interior of the larynx and trachea to its bifurcation had not really been *distinctly* seen in the living body previous to that time. In the spring of 1858, Czermak‡ and Türk§ pressed the subject upon the attention of the medical profession, and thence it became widely known and appreciated. From that time forward, laryngoscopy rapidly grew into favor and importance. Its literature has become quite extensive, and its history since the year 1858 is to be gathered from the practice of the laryngologists of to-day.

A lamentable circumstance in the history of laryngoscopy is the contest for credit as to "priority" waged by Drs. Türk and Czermak. They might safely have left the profession to judge between them, without indulgence in personal crimination and recrimination. The facts in the case are clearly before the medical world, and its verdict has accorded to each his due. The French Academy has rewarded both alike;|| and neither

\* *Observations on the Human Voice*, by Manuel Garcia. *Proceedings of the Royal Society*, vol. vii. p. 399; *Philosophical Magazine and Journal of Science*, vol. x. p. 218; *Gazette hebdomadaire*, Nov. 16, 1855, No. 469; Schmidt's *Jahrbücher*, lxxxix. p. 160, etc.

† Note addressed, January, 1861, by M. Garcia to M. Richard: *vide Notice sur l'Invention du Laryngoscope*, par Paulin Richard, Paris, 1861, p. 11.

‡ *Wiener Medizinische Wochenschrift*, No. 13, March 27, 1858, etc., etc.

§ *Zeitschrift der Kaiserlich Königlichen Gesellschaft der Ärzte zu Wien*, No. 17, April 26, 1858 (report of meeting of April 9), etc., etc.

|| "Dans l'été de 1857 M. le docteur Türk, médecin en chef de l'hôpital général de Vienne, se livra à des recherches de laryngoscopie, dans le but de trouver une nouvelle méthode de diagnostic pour les maladies du larynx. La méthode de M. Türk, comme celle de M. Garcia, est fondée sur l'emploi d'un miroir laryngien. M. Türk apporte à ce miroir des modifications et lui fit subir des changements de forme, dans le but de rendre l'instrument plus facile à supporter par les malades, sur lesquels ce mode d'exploration produit souvent des efforts de vomissements ou des sensations désagréables qui peuvent rendre très-difficile son usage. Comme M. Garcia, M. Türk se servait, dans ses premières recherches, de la lumière du soleil pour éclairer le miroir.

should have profaned the mutual work by "claiming to be worthiest." Great credit is due to Türk for his careful experiments on the dead as well as on the living; for his consistent zeal and industry in medical laryngoscopy, both before and after he realized its full importance by Czermak's success; for his varied exertions to contrive instruments to facilitate and improve laryngoscopical diagnosis, medication, and surgical operations; for his investigation and application of the catoptric principles of the method; for the instructive pathological cases which he conscientiously examined, treated, and reported; and, finally, including all the preceding, for practically reviving laryngoscopy for medical purposes, and for the enduring monument that he has erected for himself in his "Clinic of the Diseases of the Larynx and Trachea,"—the most elaborate, able, and classical work published in the field of laryngology.¶

To Czermak great credit is due for his thorough and enthusiastic researches with the instruments first lent him by Türk; for having immediately perceived "that the laryngoscopic method would prove of great importance and of varied application;" for bringing it prominently to the notice of the profession at large; for popularizing it, by personal demonstrations all over Europe, having by dint of great perseverance acquired unequalled dexterity with it; for enlarging its sphere of usefulness in every respect, by improved apparatus and new applications; indeed, for being the great diffuser and teacher, through whose instrumentality mainly the laryngoscope has become one of the recognized, daily-used, practical appliances of medicine.

While most of those whose names are connected with its early history conceived the idea of the laryngoscope independently of each other, it is perfectly plain, from our historical sketch, that neither Prof. Czermak nor Prof. Türk could lay any claim to "priority" in the way of being a prime mover in the invention or discovery of laryngoscopy. In their labors for its advancement, however, both have been good and faithful workmen in the cause of science and humanity, and in the records of this

\*\* Très-peu de temps après, dans l'hiver 1857-1858, M. Czermak se servit des miroirs laryngiens que lui avait prêtés M. Türk pour compléter les études physiologiques de M. Garcia, et pour observer le larynx dans la formation de certains sons, ceux des voyelles dites gutturales.

\*\*\* M. Czermak a remis à l'Académie son Mémoire sur le laryngoscope en 1860, et il a démontré ses expériences devant la Commission. M. Türk a envoyé comme réclamation de priorité plusieurs publications, et plus tard un dernier Mémoire sur l'emploi du laryngoscope dans les maladies du larynx et du pharynx.

\*\*\*\* La Commission n'a pas voulu entrer dans les discussions de priorité soulevées par MM. Türk et Czermak.

\*\*\*\* La Commission a pensé que les recherches de M. Türk et celles de M. Czermak étaient celles qui avaient le plus contribué à faire de la laryngoscopie une méthode usuelle et susceptible de rendre des services dans le diagnostic des maladies du pharynx et du larynx; elle propose d'accorder à chacun de ces ingénieux observateurs une *mention honorable*.

\*\*\*\* Sur la proposition de la Commission, l'Académie décide:

\*\*\*\* "Qu'une somme de *douze cents francs* sera jointe à chacune des deux mentions accordées à MM. Türk et Czermak."—*Extrait du rapport sur les prix de médecine et de chirurgie, concours de 1861*. Institut Impérial de France, Académie des Sciences, séance publique du lundi, 25 Mars, 1861.

\*\*\*\* "Klinik der Krankheiten des Kehlkopfes und der Luftröhre. Nebst einer Anleitung zum Gebrauche des Kehlkopfstachenspiegels und zur Lokalbehandlung der Kehlkopfkrankheiten. Von Dr. Ludwig Türk, A. O. Prof. an der Universität zu Wien, und Primärarzt im K.K. Allgemeinen Krankenhaus. Mit 260 dem Texte eingedruckten Holzschnitten und Steindrucktafel." This great work, with a superb atlas, was published at the close of the year 1866, and its author died on the 25th of February, 1868.

cause both will ever have "une mention honorable."\*

As to pharyngeal rhinoscopy, I have already mentioned the names of Levret and Bozzini. Levret speaks of his *speculum oris* in several publications, and describes it in detail and figures it in his work on polypus. Consisting essentially of a metallic plate placed upon the tongue, the polished reflecting surface upward, it may occasionally have illuminated and well shown portions of the pharyngo-nasal space.†

With Bozzini's apparatus, which consisted mainly of two mirrors inclined towards each other under an angle of about forty-five degrees and fixed in a tube having a large opening immediately over their reflecting surfaces, one certainly could see behind the palate.‡

In 1838, Baumès, and in 1848, Avery, made rhinoscopical investigations.§ It has been stated by Czermak,|| Semeleder,¶ Türk,||| Gibb,†† Mackenzie,†† and others, that Wilde, of Dublin, had had the idea or had attempted to examine the orifice of the Eustachian tube from the oral cavity by the aid of a small mirror; but the very passage in Wilde's work upon which alone this statement can be based refers to a case of "complete occlusion of the naso-pharyngeal opening, owing to adhesion of the velum palati to the back and sides of the pharynx, the result of syphilitic ulceration," and the object of introducing, dentist-like, a small mirror into the mouth was not only not to practise rhinoscopy, but to confirm the thorough union of the parts, and, therefore, the obliteration of all communication between the oral and nasal cavities.||§

\* Since writing the above, the sad news has reached us that Czermak's labors, too, are ended. He died September 16.

† "Il faut, pour opérer au fond de la gorge, se rendre maître de la mobilité de la machoire inférieure et de la langue; les divers *speculum oris* ou miroirs de la bouche qu'on nous a donnés jusqu'ici (voyez l'Arsenal de Scultet, table 11, fig. 4, etc., Ambroise Paré et le Dictionnaire ci-dessus cité, tome 3, planc. 11, fig. 12 et 13) m'avaient paru gênans dans la pratique, et capable de causer de la douleur; je doutais d'ailleurs de pouvoir par leur moyen maîtriser la langue comme je le voudrais; j'en imaginai donc un nouveau qui représente la fig. 15, planche 4. Cet instrument rend, tout à la fois, la langue immobile, il tient la bouche ouverte sans qu'elle puisse se fermer, et au moyen d'une plaque polie, qui fait son corps, il réfléchit catoptriquement les rayons lumineux dans le lieu qu'occupe le polype; il est aussi très-àisé à mettre en place, et pour l'y tenir il ne faut que fier derrière la nucée les rubans qui sont attachés à ses deux extrémités." Observations sur la Cure radicale de plusieurs Polypes de la Matrice, de la Gorge et du Nez, Paris, Delaguette, 1749, pp. 294 et 295.

†† Will man daher in einem Winkel schen, z. B. einen Theil des Schländes, oder hinter den hängenden Gaumen in die Nasenhöhlen, so müssen die Strahlen gebrochen werden und erfordern Spiegel für die Licht- und Reflexionsleitung." Bozzini's Lichtleiter, eine Erfundung zur Anschauung innere Theile und Krankheiten, Hufeland's Journal der prakt. Heilkunde, vol. xxv., 1 Stück, p. 116.

Windor (*loc. cit.*) refers—without having read them, however—to the following additional articles on Bozzini's invention, viz.: Salzburg, Med.-Chir. Zeit., 1863, iii, pp. 317, 319; 1867, i, p. 271; Siebold, Lucina, iv, p. 167; Journal der Erfundungen, 3 St. p. 89; this last article being to the effect that the instrument is of no use.

‡ Compte-Rendu des Travaux de la Soc. de Méd. de Lyon, *loc. cit.*; and Gibb, Diseases of the Throat, etc., *loc. cit.*

| Wiener Medizinische Wochenschrift, No. 17, 1860.

¶ Die Rhinoskopie und ihr Werth für die ärztliche Praxis. Ein monographischer Versuch von Dr. Friedrich Semeleder, Dozenten an der Wiener Hochschule, etc. Mit 2 chromolithographischen Tafeln. Leipzig, Wilhelm Engelmann, 1862, p. 1. The same, translated into English by Edward T. Caswell, M.D., New-York, William Wood & Co., 1866, p. 3.

\*\* Klinik der Krankheiten des Kehlkopfes und der Lufttröhre, p. 16.

†† The Laryngoscope in Diseases of the Throat, with a Chapter in Rhinoscopy. By Sir George Duncan Gibb, Bart., M.D., LL.D., etc., 3d ed., London, 1868, p. 147.

‡‡ The Use of the Laryngoscope in Diseases of the Throat, with an Appendix on Rhinoscopy. By Morell Mackenzie, M.D., Lond., M.R.C.P., etc. Third edition, Revised and Enlarged, London, 1871, p. 159.

§§ There is no vestige of uvula remaining, and examination with a small mirror does not show any aperture whatever throughout the whole length of the cicatrix." Practical Observations on Aural Surgery and the Nature and Treatment of Diseases of the Ear. With Illustrations. By William R. Wilde. Philadelphia, 1853, p. 347.

There can be no doubt that to Czermak||| belongs the undivided merit of having formed rhinoscopy into a method, of having named it, demonstrated and defended its feasibility and usefulness, and the crowning glory of having "enlisted fellow-laborers in its practice and given it a future."

The number of physicians who can be induced to take up any such "innovation" is necessarily always limited; and for some time after the introduction of the laryngoscope this instrument occupied attention almost exclusively. But in the spring of 1860 rhinoscopy received an impetus by the publication, by Czermak, of the first pathological rhinoscopical observation, made February 22 and 25 and March 8, 1860.¶¶

Semeleder, who had enjoyed peculiarly favorable opportunities for mastering the new method, at once followed with a detailed description;\*\*\* and Voltolini,††† Türk,††† Stoerk,|||| and others, about the same time, not only discussed it in various German and foreign journals, but attracted general attention by successfully practising it in aural and other diseases. Czermak then transplanted it by his celebrated personal demonstrations to France and England, and, before the first half of the year 1860 had passed away, the demonstrations of Stangenwald ||||| and a few others had led also to the employment of the rhinoscope in America.

Since that time the disciples of rhinoscopy have steadily augmented in number, and have gained in ability to make practical use of it: still, the method itself has not progressed to its proper place in professional esteem with the same triumphant "quick-step" as laryngoscopy. Its domain being really less known and more difficult to explore, its advance has necessarily been more slow and apparently less brilliant. Its paramount importance, or, I may say, absolute indispensableness, for the diagnosis and treatment of various affections of the pharyngo-nasal space (comprising certain cases of catarrh, deafness from disease in the region of the orifice of the Eustachian tube, etc.), is even to-day not sufficiently appreciated. It has given ample proof, however, of its practical value, and its published literature comprises many exceedingly interesting cases in point.

Anterior rhinoscopy was at first practised by means of an ordinary ear-speculum; then Markowskii, of Pesth, constructed a bivalve dilator, which I have replaced by Elsberg's nasal speculum. Thudichum, of London, devised a spring speculum; Folsom, of New York, a wire nasal speculum adapted from an eye-speculum; and Degen, of Dresden, and Fraenckel, of Berlin, a double wire speculum, which stretches open both alæ of the nose at the same time.

Esophagoscopy was originated by Lewin, of Berlin. Others have made endoscopic experiments

|| Wiener Med. Wochenschrift, No. 13 and No. 16, 1858; On the Inspection of the Pharyngo-nasal Cavity, Wiener Med. Wochenschrift, No. 32, 1859, August 6, etc., etc.

¶¶ Wiener Med. Wochenschrift, No. 17, 1860.

||| Zeitschrift der Gesellschaft der Aerzte zu Wien, No. 19, 1860.

†† Deutsche Klinik, No. 21, 1860.

††† Zeitschrift der Gesellschaft der Aerzte zu Wien, No. 26, 1860.

|||| Proceedings of the New York Medico-Chirurgical College, June 14, 1860; American Medical Monthly and New York Review, vol. xiv., No. 1, July, 1860, p. 18.

with what they called the gastroscope and electrical illumination in glass tubes, but no practical results had been obtained. The honor of having extended the principle of laryngoscopy to the inspection of the oesophagus, dilated for the purpose by means of forceps, is due entirely to Lewin, who exhibited his instruments and demonstrated their application before the Medical Society of Berlin early in 1860. He brought into view the mucous membrane of the oesophagus for four inches down.\*

Voltolini, of Breslau, took up the subject and experimented on himself, but was forced to desist temporarily because the practice became too irritating to his throat.†

In the winter of 1862, Semeleder performed oesophagoscopy both on himself and on a patient, and in the latter succeeded in inspecting the lowest edge of the cricoid cartilage,—*i.e.*, more than an inch down into the oesophagus.‡ Soon after, I employed the method in several cases with an improved forceps, and obtained views of the upper portion of the oesophagus.§

Bevan, of London, in 1868, described and figured an oesophagoscope consisting of a tube about four inches long and three-fourths of an inch in diameter, and having a couple of screws and attachment which allow of its easy insertion and adjustment to any angle; to be introduced into the oesophagus and to be united with a tube carrying a mirror which is held in the mouth.||

In 1868, Waldenburg, of Berlin, published the account of a new oesophagoscope, which essentially consisted of two cylindrical tubes sliding in each other, attached movably to a handle, these tubes to be introduced into the oesophagus to take the place of the forceps for keeping the oesophagus open; the mirror and other accessories being the same as for laryngoscopy.¶ More recently, Waldenburg has modified the apparatus by having three rods, somewhat like a wire uterine speculum, to allow of the inspection of the lateral walls of the upper portion of the oesophagus.\*\*

Tracheoscopy down to the bifurcation of the trachea was first accomplished by Elfinger, of Vienna, in Czermak's throat, in April, 1858,†† after which time Czermak himself,‡‡ Semeleder,§§ Lewin,¶¶ Türck,||| and others, confirmed its truth,

\* Die Laryngoscopie: Beiträge zu ihrer Verwerthung für praktische Medizin. Aus den Vorträgen und Demonstrationen in der Gesellschaft für wissenschaftliche Medicin und dem Vereine Berliner Ärzte. Von Georg Lewin, praktischem Arzte zu Berlin. Berlin, August Hirschwald, 1860, p. 4 and p. 14.

† I have not been able to procure Dr. Voltolini's own account of these experiments, but take them from Semeleder's work, "Die Laryngoscopie und ihre Verwerthung für die ärztliche Praxis," Wien, Wilhelm Braumüller, 1863, p. 29.

‡ Wiener Medizinal Halle, ii, 34, 1862; *op. cit.*, pp. 28, 29, 30: Rhinoscopy and Laryngoscopy; their Value in Practical Medicine. Translated from the German by Edward T. Caswell, M.D. New York, William Wood & Co., 1866, p. 97, et seq.

§ Remarks before the New York County Medical Society, November 2, 1863, American Medical Times, December 26, 1863.

|| Lancet, April 11, 1868, p. 470.

¶ Berliner Klinische Wochenschrift, No. 48, 1870.

|| Berliner Klinische Wochenschrift, No. 44, 1871.

†† Der Kehlkopfspiegel und seine Verwerthung für Physiologie und Medizin. Eine Monographie von Dr. Johann N. Czermak, ord. Professor der Physiologie an der K. K. Universität in Pest. Leipzig, 1860, p. 9, p. 45, etc.

‡‡ Wiener Med. Wochenschrift, No. 16, 1859.

§§ Allgemeine Wiener Medizinische Zeitung, No. 40, 1859.

¶¶ Die Laryngoscopie; Beiträge, etc., p. 24.

||| Allgemeine Wiener Medizinische Zeitung, Nos. 8 and 9, 1860.

and Türck was the first to see distinctly the right bronchus.\*\*\*

Pertracheal laryngoscopy as well as pertracheal tracheoscopy was devised by Neudörfer, of Vienna,††† but, though he practised it considerably on the dead subject, Czermak was the first to perform it on the living.†††

## ORIGINAL COMMUNICATIONS.



### CASE OF OPIUM-POISONING—USE OF ATROPIA.

BY H. S. SCHELL, M.D.

AT 7.30 P.M., November 8, 1873, I was called to see L. M., a young woman, who at six o'clock the same evening had taken one and a half fluid-ounces of laudanum for the purpose of destroying her life. I found her unconscious, her extremities cold, muscles relaxed; pulse 60, and full, but not strong; respiration snoring; face of a dusky hue; irides immobile, pupils about  $\frac{1}{2}$  inch in diameter, and cornea insensible.

I had brought with me a couple of yards of india-rubber tubing of small diameter, and a syringe, and, after passing one end of the tube into the stomach, and starting the fluid in motion through it by the syringe, I allowed the other end to fall into a basin by the bedside and thus act as a siphon. In this way a couple of ounces of brownish fluid, smelling somewhat of laudanum, were discharged, when the flow ceased, and could not be again started. While preparing to inject some warm water to wash out the stomach, the tube was accidentally drawn out of the oesophagus, and I was unable to re-introduce it. She had taken no food during the day, and the brownish fluid was evidently mostly beer, of which she had drunk a glass a short time before taking the laudanum. I thought it better, however, to give her an emetic of mustard and salt, to get rid of whatever laudanum might remain; but it was with the greatest difficulty she was sufficiently aroused to be induced to swallow it. I gave her at the same time thirty drops of the tincture of belladonna, and repeated the latter every fifteen minutes until after ten o'clock. The emetic, not acting, was repeated in twenty minutes, and in twenty minutes thereafter was followed by a scruple of sulphate of zinc, and the fauces were tickled with a feather; all without result.

At 9.30 the pulse was somewhat more frequent, but weaker; the condition of the respiration and temperature of the surface remained about the same; and I now noticed for the first time that the optic axes were considerably divergent, the eyeballs being also rolled somewhat upward.

At 10.15, after rousing her to give her a dose of tincture of belladonna, there was an almost convulsive struggle of resistance, attended by violent excitement, and followed by sudden and complete col-

\*\*\* Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien, No. 21, 1860.

††† Oesterreich. Zeitschrift für praktische Heilkunde, iv, No. 46, 1858.

||| Wiener Med. Wochenschrift, No. 11, 1859.

lapse. There was an entire cessation of respiration, the pulse was barely perceptible, the face pale, lips livid, pupils unchanged, and eyes rolled up and outward to the extreme limits of their orbits.

As shaking, slapping, the cold douche, etc., failed to re-excite the act of breathing, I commenced artificial respiration by Marshall Hall's method; and, after keeping it up for ten minutes without improvement, I instructed an assistant how to continue it, and returned to my office for my hypodermic syringe, at the same time sending for a solution of the sulphate of atropia, gr. j ad f $\frac{3}{4}$ . On my return, ten minutes afterwards, I found her in the same condition as when I left; not an inspiration being drawn except by the artificial method, and only the feeble fluttering of the heart to show that she was still living.

I at once, however, injected  $\frac{1}{8}$  grain of atropia under the skin of the arm, and in a short time had the satisfaction of seeing a natural act of inspiration, and of finding a decided pulse again under my fingers, beating at the rate of 108 in the minute. The pupils soon dilated to  $\frac{1}{6}$  inch, and she vomited five or six ounces of fluid. Artificial respiration was of course discontinued, but in a short time the pulse fell again to 90, alarming symptoms reappeared, and twenty minutes after the first injection of atropia I repeated it. The pulse soon rose again. There was copious emesis, but no odor of opium about the ejected fluid. She asked for water, which was given freely, and in the half-unconscious intervals of vomiting she kept up a pretty general scratching of the surface of the body, and rubbing of the nose, showing that she was beginning to be annoyed by the action of the opium upon the skin.

In a little while, however, there was a diminution of the pulse-rate, return of coma, etc., and in half an hour from the last injection I repeated the atropia. The effect now seemed to be more permanent; the pulse rose to 110 and became stronger, the pupils dilated to a little over  $\frac{1}{8}$  inch in diameter, and remained so, responding, however, to the action of light. She complained of seeing objects double, and was very tremulous.

When I left her, after 1 A.M., she was dozing quietly, could be easily aroused, her respiration was full, skin warm, pulse 100 and moderately strong, and she had still some divergence of the optic axes.

When I saw her the next morning at 10 o'clock she was sitting by the stove, apparently quite well; the derangement of vision had disappeared, but the thickly-coated tongue and occasional nausea were evidences of considerable derangement of the stomach.

I learned that she had had abundant diuresis during the night; but, owing to accidental circumstances, I was unable to procure a specimen of the urine for examination.

The principal point of interest in connection with this case is the striking manner in which it illustrates the stimulant effect of atropia in moderate doses upon the par vagum.

As to its action upon the gastric branches, it will be remembered that the stomach first responded to

the action of the emetics about two hours after they were taken, and in a few minutes after the first hypodermic injection, and freely after the second one.

Tincture of belladonna had been previously given by the mouth, and about f $\frac{3}{4}$  ss had been used from the bottle containing it; but, in consequence of the difficulties attending the administration, it is probable that not more than f $\frac{3}{4}$  ij were actually swallowed. Owing, however, to the lethargic condition of the stomach, produced by the opium, I imagine that but little of the three fluidrachms was absorbed, and that the most of it was afterwards vomited.

In the case of a man who had taken thirty grains of opium and ten or twelve ounces of whisky,—reported by Dr. McGee,\*—the use of various emetics for a couple of hours produced no result; but, after the subcutaneous injection of  $\frac{1}{4}$  grain of atropia, free vomiting took place immediately.

In Dr. Walker's case,† a girl fifteen years old had taken six or eight grains of opium, and emetics were used ineffectually until after the hypodermic injection of  $1\frac{1}{2}$  grains ext. belladonna.

In Dr. Todd's case,‡ of a man of intemperate habits, who had taken tr. opii f $\frac{3}{4}$ x, emetics failed to excite vomiting. Atropia was administered subcutaneously at 10.30 P.M., but there was no emesis until after he had been violently rolled about the bed at 3 A.M. In this instance the stomach was probably unusually callous to impressions, in consequence of the habits of the individual.

The action of the remedy upon the cardiac branches of the pneumogastric is seen in the manner in which the pulse rose and strengthened after each use of the hypodermic syringe.

As to the lungs, it has been seen that the use of artificial respiration continued for twenty-five or thirty minutes produced in that time no action of the respiratory muscles, but that the breathing became regular and natural soon after the use of atropia.

I should conclude, therefore, that when the patient is in a comatose condition when first seen, it would be better to administer  $\frac{1}{8}$  to  $\frac{1}{4}$  grain of atropia subcutaneously at once, and give an emetic as quickly as possible thereafter; and it seems probable that the action of the emetic may be aided by rolling the patient. If, on the contrary, the sulphate of zinc or mustard is allowed to remain in the stomach for an hour or two, it sets up a degree of irritation, or even inflammation, which requires special treatment for its relief and often lasts for several days.

It would seem, too, that there is no advantage in pushing the atropia until the pupils are widely dilated, but that it is sufficient to give enough to stimulate the nervous centres whence the pneumogastric springs to the degree of action necessary to keep the heart and lungs in motion until the system can rid itself of the poison.

A peculiar feature of this case was the divergence of the optic axes,—a symptom which I do not

\* Am. Jour. Med. Sci., p. 282, July, 1869.

† Am. Jour. Med. Sci., p. 282, Jan. 1872.

‡ Am. Jour. Med. Sci., p. 131, Jan. 1873.

remember to have seen noticed elsewhere, but which was probably the cause of the diplopia mentioned in the cases recorded by Dr. Johnson\* and Dr. Wood,† as it evidently was in this instance. It is possible that there may have been sufficient tincture of belladonna absorbed by the stomach to act upon the nervous centres in the floor of the fourth ventricle, whence the abducens and vagus take their deep origin, and that all the other muscles of the eye, being temporarily paralyzed by the opium, were powerless to resist the external rectus.

1004 VINE STREET, PHILADELPHIA.

#### AN ABSCESS IN THE PLACENTA.

BY GERALD D. O'FARRELL, M.D.

A SHORT time ago I was called to see Mrs. R., aged 20, primipara. She informed me that she was in labor, and, as far as she could judge, about her full time. Looking at the woman as she lay in bed, I feared that her fond anticipations were not only destined to be disappointed, but that she was far advanced with some malignant disease. A per vaginam examination, however, showed that she was correct. The abdomen was perfectly flat; the face, neck, and breast, as far as visible, were of that green hue seen in well-marked cases of cancer; her eyes were brilliant; emaciation was extreme, and she complained that her hands and feet were burning.

On inquiring into the history of the case, I learned that, when about six months gone, a boy about fourteen years of age playfully struck her a severe blow on the abdomen. From that time she ceased to grow larger, and the movements of the child ceased also.

On making an examination, I found the os uteri sufficiently dilated to admit two fingers, the edges thin, hot, and wiry. Introducing the fingers into the womb, I could feel the bones of the skull denuded of the scalp, and on withdrawing my hand it was covered with a thin, dark-colored, and exceedingly offensive discharge. After several hours I succeeded in dilating the womb sufficiently to allow the head to pass, but was obliged to make a cone of my hand so as to shield the soft parts from injury. The placenta was delivered shortly after. It was hard, dark, granular, and very heavy, and in the body of it I found an abscess containing about twelve fluidounces of fetid pus. The womb did not seem inclined to contract, nor was there much disposition to hemorrhage. I washed out the vagina with a solution of chlorate of potassa in tepid flax-seed mucilage, and put the patient at once on the free use of liq. ferri iod. and quinia. She made a rapid and perfect recovery, and since enjoys excellent health.

**PARACENTESIS IN PERICARDIAL EFFUSION.**—Mr. Thomas Barlow reports the case of a child, six years of age, who was brought to University College Hospital with an enlarged abdomen, slight oedema below the eyes, cough, dyspnoea, and emaciation.

There was some bulging in the cardiac region; the apex-beat was absent; the cardiac dulness ex-

tended three-quarters of an inch to the right of the sternum, and a double grating friction-sound was heard from the junction of the xiphoid to the junction of the third costal cartilages. There was also slight oedema of the abdominal walls. A week later, the cardiac dulness reached to within a finger's breadth of the right nipple, and there was fluid in the peritoneal cavity. During two months there was but little change in the physical signs; some increase in the ascites, dyspnoea, and emaciation; the jugulars became distended. There being no reason to expect that anything would cause the absorption of the fluid, paracentesis of the pericardium was determined upon. The skin was punctured by the smallest aspirator trocar one inch below and three-quarters of an inch inside the left nipple. The trocar was pushed upward and outward and entered the pericardium above the fourth rib; three and three-fourths ounces of tinted, brownish, highly albuminous fluid were withdrawn. The pulse was unaffected, and there were no signs of collapse. The patient's condition was much improved for two or three days, but in a week it became necessary to repeat the operation. The trocar was introduced on this occasion at the upper border of the fifth rib, and six ounces of fluid were removed. His symptoms were again relieved for a short time, but in two days the cardiac dulness was as great as before. The abdomen became enormously distended, so that paracentesis abdominis was rendered necessary, and was once repeated. The general oedema increased immensely, and the boy died seven months after the commencement of his illness.

At a post-mortem examination there were found extensive tubercular peritonitis, a deposit of tubercle in the right lung, and a partly adherent, partly nutmeg liver. The visceral and parietal pericardium was greatly thickened, but the two surfaces were not at all united, the heart hanging free in its thickened envelope. *The Practitioner*, October, 1873.

**RUPTURE OF THE HEART** (*British Medical Journal*, October 18, 1873).—Mr. T. M. Wills reports the case of a man, 45 years of age, who was knocked down by a cart and was brought to the hospital in a state of collapse. A contused wound, about three inches in diameter, was found on his chest a little to the left of the sternum, and corresponding to the fifth rib, which was fractured. The pulse- and apex-beats were imperceptible, the surface cold and clammy, lips and hands blanched, respiration troubled and heaving, and there was slight haemoptysis. In spite of internal and external stimulation, he grew worse, and died in eight hours after the injury. At the post-mortem examination the pericardium was found distended with clotted blood, and a careful examination disclosed at the apex of the left auricular appendix a small laceration, partly filled with a clot, which freely admitted the introduction of a blow-pipe to the cavity of the auricle. The walls of the auricular appendix seemed unusually thin, and there was a large deposit of fat on the walls of the heart, which in other respects was normal. The pericardium was not torn by the rib, and the point of injury was far behind the seat of fracture, so that the rupture must have been caused by the violence of the contusion. The fact of the laceration being remote from the main current of blood, the force of which was diminished by the orifice of the auricular appendix, and also by the shock, explains the survival of the man for so long a period after this accident.

**DETECTION OF WATER IN ETHEREAL OILS.**—Oils distilled with water from plants contain water, although they may appear perfectly clear. On mixing such oils with an excess of so-called benzine, a cloudy effect is produced by the precipitated drops of water.—*American Chemist*.

\* Medical Times and Gazette, Feb. 15, 1873.  
† Am. Jour. Med. Sci., April, 1873, p. 342.

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**EDITORIAL.**

**ATROPIA IN OPIUM-POISONING.**

IT is certainly, under most circumstances, an exhibition of bad taste for an editor to laud or to criticise papers appearing in the columns of his own journal. With the permission, however, of Dr. Schell, we propose to offer some remarks upon the subject concerning which his article in this week's issue treats, because it is one of considerable practical importance, and because his case seems to us to fulfil very beautifully the theory first propounded—so far as we know—in the *American Journal of the Medical Sciences* for January, 1872, in regard to the therapeutic action of atropia in opium-poisoning. As most of our readers no doubt know, that theory is that the great value of atropia in opium-poisoning is as a respiratory stimulant,—that just as when, in a case of opium-poisoning, the circulation fails, alcohol in some form is indicated as a cardiac and arterial stimulant, so in similar cases when death is threatened through disturbance of the respiration, atropia should be given.

The first question that naturally arises at this point is, What proof is there that atropia is really a respiratory stimulant? The proof rests partly upon clinical, partly upon experimental, evidence. It is an undeniable fact that in full doses, both in man and animals, belladonna and its alkaloid alike increase the frequency of the respiration; and it has been abundantly proven by experiment that this is by a direct action upon the medulla, since it occurs in animals whose pneumogastrics have been

previously cut (Bezold und Bloebaum, *Untersuchungen aus dem Laboratorium zu Würzburg*, erster Theil, s. 59). The action of therapeutic and of toxic doses of atropia is somewhat different, since, apparently, the former do and the latter do not paralyze the pneumonic vagi. At least it has been found that whilst after a full dose of the drug the usual results follow section of the par vagum, after a toxic amount the respiratory rhythm is unaltered by the procedure. Perhaps, however, our deduction is too great for the facts in this case.

Death from atropia is very often owing to asphyxia: possibly this is in a measure due to the nerve-centres being overpowered by the stimulus; but another factor certainly enters into the problem, for it has been proven that, like woorari, atropia paralyzes the motor-nerve trunks. Be these things as they may, one evident deduction can be drawn from all the facts,—namely, that in full non-lethal doses atropia is a respiratory stimulant.

It is scarcely necessary to point out that in opium-poisoning the failure of the heart is very generally secondary to failure of respiration.

In the case reported by Dr. Schell, the effect of the drug was very remarkable, in causing a resumption of respiration after it had for twenty minutes failed to occur, notwithstanding the vigorous employment of the usual methods of restoring it.

Whilst we commend the judicious moderation with which the atropia was employed in the present instance, we cannot help believing that often a good deal of firmness is required in these cases not to use it too freely, especially since reliance is generally placed upon the pupils as a guide. They are, however, a very unsafe guide, as is apparent when it is remembered that whilst opium contracts them by influencing the nerve-centres, atropia probably dilates them by acting on the peripheral nerves.

In regard to the guide as to the use of the counter-poison, judgment, we think, should be formed from a bird's-eye view of the whole case, fresh atropia not being given so long as the respiration and other symptoms are undergoing amelioration, but the dose being renewed so soon as any tendency to a relapse is manifested. Thus, if under the influence of atropia in a case the respirations had risen from four to eight per minute, we would not use the counter-poison again until there was manifested a tendency for the respirations to grow less frequent, or unless for a long period there had been no improvement.

Space is of course wanting here to enter into an elaborate discussion of the subject; but it has been proven by the researches of numerous observers

that the sole action of atropia upon the peripheral cardiac par vagum, and with scarcely a doubt upon the whole peripheral par vagum, is that of a paralyzant. The rise in the rapidity of the heart's action in belladonna-poisoning is very largely due to the removal of the inhibitory power. The explanation we would give of the vomiting which occurred after the injections is, therefore, different from that offered by the reporter. It seems to us that the double nature of the profound opium-narcosis has not had sufficient stress laid upon it. We have not rarely seen a child whose lungs were filled up with the exudation of capillary bronchitis offer symptoms exactly similar to those of the advanced stages of opium-poisoning,—the general relaxation, the profound insensibility, the contracted pupils, the slow, distant efforts at breathing, being all present,—and we have seen the same child under the influence of alternate ice-cold and hot douches commence to breathe; and, as the breathing returned, have watched the pupils dilate, the cyanotic hue pass from the face, and the child arouse itself out of its unconsciousness, only to relapse when the breathing was allowed to fall back. We have treated such a case almost as one of opium-poisoning, and, after four, six, or eight hours, have seen assurances of returning life,—assurances ending in recovery, when for hours the child had been unable to swallow, and the case abandoned by the most skilful physicians as hopeless.

What is the cause of the narcosis in these cases? Evidently, carbonic acid gradually accumulated in the blood through the failing respiration. Precisely the same thing happens in opium-poisoning,—failing respiration, accumulation of the gas in the blood, a double narcosis, due perhaps even to a greater degree to the carbonic acid than to opium. Carbonic acid narcosis suspends reflex actions; we have experimentally corroborated this well-known fact: hence the emetic will not act in a case like that of Dr. Schell's. When, however, the respiration begins to return, when a portion of the carbonic acid has been removed, the emetic is able, as it were, to pierce through the thinned stratum of narcotics and to reach the living nerve below.

**I**F the telegraphic dispatches be true, a most extraordinary instance of professional pride has just been given in Boston. Recently we chronicled the self-immolation of Obermeier, a young Berlin physician, upon the altar of science; but this time it is simply personal and professional pride that has brought about the tragic result, unless—as seems to us probable—there were some deeper, hidden

springs of action. The story is that in the Boston City Hospital a young female nurse, named Pfyffer, on Tuesday, November 18, took opium with suicidal intent. Dr. Arthur L. Foster, the house physician, was called to her in the night, and mistook her symptoms for hysteria, prescribed, and returned to his bed. The next morning, on finding that his patient was dead of opium-poisoning, he went to the bath-room, and, locking the door, opened a femoral artery.

## CORRESPONDENCE.

### LONDON LETTER.

[From Our Own Correspondent.]

Mr. Erichsen's Address at University College—Hospitalism—Mr. Calender's Papers on the Subject—A Doctors' War—Death of Dr. Murray—Breach of Professional Rules—Death of Sir Henry Holland.

London, November 5, 1873.

**A**MONG the most important of the Introductory Addresses at the Medical Schools in London, this season, was that of Mr. Erichsen, the well-known author of "The Principles of Surgery." It was delivered at University College under peculiar circumstances. The physician to whose turn it fell (for it is a matter of rotation) to deliver the address was Dr. Roberts, a young assistant-physician of great promise, and also the venturesome author of a New Handbook of Medicine just issued from the press and not yet reviewed. Dr. Roberts, however, fell into bad health; and Mr. Erichsen, who has just recovered from a serious illness, due, it was thought, to "chronic blood-poisoning," had probably most of the materials for an oration at hand,—those, namely, which he had prepared for the Address in Surgery which he was early in the year appointed to give for the British Medical Association. Mr. Erichsen's address was, accordingly, out of the class of ordinary inaugural addresses. It bore the marks of much thought and preparation and treated seriously an important subject, and was in truth a sort of review of the progress of surgery and a survey of its prospects.

It has produced a very serious impression, owing to the way in which it dealt with the subject, and is likely to be the signal for reopening vigorously the great question,—deeply interesting to surgeons and to the world at large,—How far is the influence of *hospitals* injurious to patients undergoing operation in them? What is the rightful meaning of the word *hospitalism*, to which the late Sir James Y. Simpson attached a sinister significance? How far is the alleged baneful influence of hospitals an essential condition of residence in hospitals, and by what precautions can it be diminished?

Mr. Erichsen's statements were slashing, and they have not passed uncontradicted. I believe that your continent is capable of contributing perhaps more important evidence in the discussion of the question than even our European hospitals and private records can furnish, and I am sure that such contribution will be

received with great satisfaction. It is a question equally momentous on both sides of the Atlantic; and therefore I call the particular attention of American surgeons to it. The creed of Mr. Erichsen is stated so broadly and clearly that I shall do best to quote the passage in which he re-states and endorses Simpson's figures:

"Without going into details, which would here be alike unnecessary and tedious, it may be stated broadly that, having collected a large and nearly equal mass of statistical returns of consecutive operations performed in large and in small hospitals, in country, mining, and private practice, he found that of 2089 cases of amputations in large hospitals in this country, 855, or 1 in 2.4, had died; whilst of 2098 in country and private practice the deaths were only 226, or at the rate of 1 in 9.2.

"It is quite possible that Simpson's figures may not be absolutely, but only approximately, correct, and that certain sources of fallacy have introduced themselves into his tables. But, making all reasonable allowance for every possible source of error, the difference is so great between the operation of amputation in and out of hospital that the material result cannot be affected,—viz., that a mortality of 1 in 2.4, or, in other words, of more than 40 per cent., is not a necessary result of amputations; that it is greatly the result of the circumstances in which the patient is placed after the operation; and that it may be materially reduced,—according to Simpson, by nearly three-fourths,—so as to amount to less than 12 per cent., by an alteration of these circumstances; and that the mortality so dependent on circumstances which admit of alteration, of modification, and probably of rectification, is certainly equal to that which exceeds 1 in 9, or 12 per cent.

"But, when we come to analyze these results more closely, some startling facts are elicited. Thus, amputation through the forearm cannot surgically be considered a very serious operation. It is not likely to prove fatal by any conditions dependent on or inherent in it,—as, for instance, by shock or hemorrhage,—but can only become fatal by the intrusion of other and adventitious circumstances dependent on causes existing outside the operation itself. Well, what is the result? That of 377 cases occurring in private and country practice only 2 died, whilst of 244 in hospitals no less than 40 died, being 1 in 188 against 1 in 6.

"Surely here is a condition of things most unsatisfactory in itself, and not very creditable to modern surgery, and one in which we may hope that the further cultivation of the science may do much to aid the progress of the art of surgery."

Accepting thus sincerely Simpson's figures as unimpeachable, it is not surprising that Mr. Erichsen should ask, "Must hospital surgeons ever remain content in losing from one-third to one-half of all their amputations, and nine-tenths of some?" or that, addressing the students, he should say to them, "Here, then, is a vast and most fertile field, to which you who are commencing your studies may direct your attention with the greatest advantage, and which you who after this session will go forth into the world to practise may cul-

tivate with a double advantage, to humanity and to yourselves."

It happens, however, that some others than students just commencing their studies have been directing their attention to this most fertile field, and have endeavored to ascertain what the utmost care and a judicious and minute attention to the recognized rules of surgery can do to reduce hospital mortality after operations to a par with anything that can be claimed for domiciliary surgery. Prominent among these has been Mr. George Callender, F.R.S., one of the surgeons to St. Bartholomew's Hospital, who has succeeded to the charge of Sir James Paget's wards in that ancient and noble institution. Mr. Callender read a paper making known his results at the last meeting of the British Medical Association, London, August, 1873. In this paper he gave a table showing the results of the treatment of compound fractures and of amputations during the last four and a half years, the whole period of his surgeoncy. The table is a very remarkable one: it reads thus:

	TOTALS.	DIED.	RECOVERED.	FATAL CASES.
Operations (excluding those for hernia)	199	6	193	
Compound fractures	28	0	28	
Amputation at the thigh	14	0	14	1. Ovariotomy.
" " leg	14	0	14	2. Ovariotomy.
" " arm	2	0	2	3. Nephrotomy.
" " forearm	3	0	3	4. Lithotomy.
				5. Syphilitic lar-
				yngitis.
				6. Cystic tumor.
	33	0	33	

Thus it will be seen that there has been in these wards during four and a half years a death-rate after all operations (excluding hernia) of but three per cent., and that of the thirty-three cases of amputation, including fourteen of the thigh and fourteen of the leg, all have recovered. The twenty-eight cases of compound fracture have likewise all recovered; and this explains the absence of cases of primary amputation in the list. It may be doubted whether the results of any surgeon in private practice ever exceeded this; and hence some lectures which Mr. Callender is now publishing in the journal of the Association (*British Medical Journal*), explaining all the details of his treatment, are attracting great attention. They, however, contain little that is new in principle,—indeed, they do not profess to do so,—but they are highly interesting, as showing how important is the attention to small things, and how greatly results are influenced by the most conscientious devotion to details. Rest, isolation, scrupulous cleanliness, antiseptic applications (without the exclusion of air), and a minute and intelligent supervision of everything which can avoid septic poisoning of the wound and improve the patient's condition,—these are the secrets of Mr. Callender's success. I should say that Mr. Callender is a man remarkable for scrupulous exactness in word and act; he is as conscientious in what he says as in what he does; and, besides the fact that all his cases are controlled by public record in the books and papers of the hospital, there is no one here who hesitates to accord the most implicit reliance to his statements, as being sure to be entirely free from every conscious exaggeration, and certainly from every kind of statistical

juggle. The whole question of hospital mortality is likely, therefore, now to be transferred from the region of paper statistics, in which it has rested for a long time, to its proper field, that of actual clinical experiment in the wards of great hospitals. I shall have again to return to this subject (which I do not doubt that you will agree with me in thinking of deep interest); for Professor Erichsen and Dr. Lauchlan Aitken (who assisted the late Sir James Y. Simpson in preparing his statistics) are likely to take the field again shortly on his side of the question, while the series of lectures which Mr. Callender has now commenced will give a minute review of his methods and results, and of those of his colleague at the hospital, Mr. Morrant Baker, which have been hardly less interesting and successful.

The Societies have recommended, but as yet without any promise of papers of more than ordinary interest. The next meeting of the Clinical Society will, however, produce two interesting papers by Sir William Gull, which may be worth discussion. The most ordinary topics of interest are the preparations for the Ashantee expedition, which is to be a doctors' and an engineers' war chiefly. A few years ago "a doctors' war" would have been a phrase not easily understood by the million. Now, however, it is beginning to be pretty well understood that in a tropical campaign "the wise physician skilled our wounds to heal" (and to prevent) is sometimes "more than armies to the public weal."

A very general and most unusually earnest and outspoken feeling of grief has been caused by the almost sudden death of Dr. John Murray, who, though under thirty years of age, was well known as sub-editor of a medical paper, and was already physician to two leading hospitals. He was carried off suddenly by an attack of erysipelatous inflammation of the fauces, followed by rapid oedema of the larynx. His remains were removed to Aberdeen, his place of birth: they were met at the railway-station by upwards of four hundred of the best-known London practitioners, and a funeral service was there conducted of singular solemnity and strangely sad impressiveness. A tablet and bust will be erected to his memory. Some excellent Latin and Greek lines have been published *in memoriam*. As classical tributes of the kind to the memory of physicians are becoming unfortunately rare, and as both are from the pens of London medical men, I will quote the Greek, which is much admired for its point and classic neatness of diction:

Tί τοῦτο, Οάνατε; Μῶν ἀφαρπάσαι δοκεῖς  
Ιατρὸν ὡς ἀνηδῶν, ὡς τέχνης φθονῶν;  
Οὐκ ἔστι καὶ γὰρ ἐγγεραμμένος φρεσίν  
Φίλων, πενήνων, πάντος ιατρῶν γένοντος,  
Ἄπων παρέστι, καὶ σὲ νικῆσαι θανῶν.

"And didst thou think, O death, to gain  
A victory by having slain  
Him so young, so full of skill?  
Ah, no! for he is living still.  
He lives enshrined in many a heart,  
Friends, brothers, debtors to his art.  
Thus, though absent, present, he  
In dying, death, shall conquer thee."

From a physician much honored I must pass to one who has incurred professional censure. A well-known physician of St. Thomas's Hospital, greatly to the surprise of his professional brethren, lately undertook to edit a column, entitled "Our Medical Column," in a weekly paper called "The English Mechanic." This is entirely contrary to obvious rules of professional ethics. He defended himself vigorously and defiantly when called to account by the medical papers, and alleged—no doubt truly—purely philanthropical motives. But, whatever the motive, the course was obviously wrong; and, after a very brief struggle, he has succumbed, not without some loss of consideration among his professional brethren here, who do not easily pardon such a breach of professional rule. The struggle was so brief that the College of Physicians and the staff of his hospital have been relieved from the necessity of interfering.

The death is announced to-day of Sir Henry Holland, a physician who has occupied the highest social position for many years, and who was of great literary and scientific distinction, but who was not very well known personally in medical circles, from which he held himself unduly aloof. He died at the age of eighty-five, quietly in his bed, after a very few hours of languor, having recently returned from one of those long vacation-rambles far afield (this time to the fair at Nijni Novgorod in Russia) in which he had annually indulged throughout his long and active life. He was a frequent visitor to America, and the friend of many distinguished American citizens,—among others, the personal friend of six Presidents of the United States. His first wife was a daughter of the late Canon Sydney Smith.

PHILADELPHIA, Nov. 20, 1873.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES.

DEAR SIR:—I send the following clipping from the *Public Ledger*. What chance have the hospital doctors against an accoucheur with a baby of seventeen and three-quarters pounds weight?

"A BOUNCING BOY BABY.—Mr. John Brooks, 1728 Warnock Street, has been furnished by the attending physician, Dr. Prall, with the following particulars concerning his new-born son, Henry C. Brooks, born on Tuesday last, November 18:

Weight . . . . .	17½ pounds.
Length . . . . .	22½ inches.
Measure around the shoulders . . .	19½ "
Measure around the waist . . . .	17½ "
Measure around the chest . . . .	17½ "
Measure around the head . . . .	16 "

"Perhaps some of our experienced doctors, or affectionate mothers, may be able to present cases approaching the dimensions of this young gentleman on his birthday: if so, the *Ledger* will help to make an enduring record of the fact."

Yours,

CONTRIBUTOR.

## PROCEEDINGS OF SOCIETIES.

## MEDICAL SOCIETY OF THE COUNTY OF ALBANY, NEW YORK.

ANNUAL MEETING, NOVEMBER 11, 1873.

Reported by JAMES S. BAILEY, M.D.

DR. ALBERT VAN DERVEER, PRESIDENT, in the chair.

THE Society was called to order at 3.15 P.M.

The minutes of the last semi-annual meeting were read and approved.

A communication from the State Medical Society was presented and read by the Secretary, and was received and accepted.

The President announced that the committee would be appointed at a future time.

The report of the Treasurer was then read by the Treasurer, Dr. W. H. Murray, and was received and adopted.

The report of the committee on publications was then read, and, after a lively debate, was laid on the table.

Drs. Segur, P. A. Fennelly, and O. H. E. Clarke were admitted as members of the Society.

After various miscellaneous business, the President delivered an admirable address, and the following were elected officers for the ensuing year :

President—John Swinburne.

Vice-President—H. W. Steenburgh.

Secretary—F. C. Curtis.

Treasurer—W. H. T. Reynolds.

The remainder of the officers continue the same as last year.

The Society then partook of a banquet, with the usual accompaniments of toasts, speeches, etc.

## GLEANINGS FROM OUR EXCHANGES.

FALLACIES AND FAILURES IN ANTISEPTIC SURGERY (*British Medical Journal*, October 18, 1873).—Mr. Edward Lund, surgeon to the Manchester Royal Infirmary, and one of the advocates of the antiseptic system, enumerates a few of the erroneous notions which are entertained on this subject. He says:

"1. It is a fallacy, or an erroneous doctrine, in the practice of antisepticity, to think that it is the agent employed, and not the result produced, which must be watched. Carbolic acid is only useful by preventing putrefaction in the excreta of the wound, and to say that it has any special power beyond is a mistake.

"2. It is a fallacy to assume that the success or failure of the system is to be measured alone by the absence or presence of suppuration.

"3. It is a fallacy to look upon the secretion and expulsion of pus as so much broken-down tissue, produced by the removal of previous induration, the reduction of swelling, and the clearance of the general system of some peccant matters.

"4. It is a fallacy to regard the admission of air to wounded portions of the body as a matter of light importance, unless the air be filtered and disinfected of its septic particles.

"5. It is a fallacy to ignore the possible contagion of septic matters from one wound to another, from one person to another, from tainted instruments and soiled dressings, and thus to neglect the most scrupulous cleanliness in the treatment of wounds, by quick removal, from within their range, of the minutest portions of the products of putrefaction.

"6. It is as fallacious as it is inconsistent to attribute on the one hand to atmospheric causes the presence of pyæmia, septicæmia, erysipelas, and the like, and yet to take no precautionary measures which can be proved to be efficient to neutralize these ill effects in the treatment of wounds."

In regard to the sources or causes of failure which may vitiate the ultimate results of any operation conducted on antiseptic principles, there may be mentioned:

"1. Non-attention to the needful preparations before the operation is commenced, in reference to the part to be operated upon, the instruments to be used, and the assistants who are to take part in it. This applies as much to the treatment of abscesses as of wounds properly so called, for the entrance to the abscess must be most carefully guarded at the time of incision.

"2. Defective arrangements during the progress of the operation, from its commencement to its entire completion.

"3. Faulty adjustment of the dressings after the operation is finished, such as allowing them to pucker up and thereby leave channels or cavities so capacious that more air collects in them than the vapor generated from the resin cloth or gauze can disinfect.

"4. Injurious delay in redressing the wound for the first time after the operation, so that the discharges, having exuded through the layers of whatever antiseptic material may be employed, reach the air, become putrid, and have their septic influence carried backward to the wound.

"5. Carelessness in the special method of removing the old dressings and applying new ones, even where the atmosphere is assumed to be rendered innocuous by antiseptic vapor.

"6. Needless alarm at certain complications which may arise, and, being regarded as harbingers of evil, cause the neglect or total abandonment of the system. The most common of these complications is the sudden appearance of redness in the skin near the wound, seeming to forebode the advent of erysipelas. It rarely goes beyond the condition of severe erythema."

GUNSHOT WOUND OF THE HEAD (*St. Louis Medical and Surgical Journal*, November, 1873).—Dr. T. F. Prewitt reports the case of a man, æt. 32, who, while endeavoring to shoot himself, inflicted a wound a little to the left of the median line of the forehead and about an inch and a half above the supraorbital ridge. The bullet entered the cranium, and the bony circumference of its track through the skull could be traced with a probe for several inches. The man suffered somewhat from irritability of the stomach, nausea, and vomiting, but this condition was relieved by chloral and morphia. He was kept quiet, and in five weeks was discharged from the hospital greatly improved. About a year afterwards he came under observation again, complaining of great headache, involuntary discharges of urine, and general malaise. He sank gradually, became semi-comatose, and finally died of asthenia.

On the post-mortem examination the bullet was found encysted and lying near the anterior border of the left lobe of the cerebrum, upon the under surface of which was a large sac filled with pus. There were evidences of inflammation of the brain and dura mater in the neighborhood of the ball.

TRAUMATIC TETANUS SUCCESSFULLY TREATED WITH CALABAR BEAN (*Chicago Medical Journal*, November, 1873).—Dr. J. A. Duncan resorted to calabar bean in a severe case of traumatic tetanus, after enormous doses of opium, chloral, ether, belladonna, and bromide of potassium had been given without benefit. A tincture of the bean was used containing one grain of the powdered drug to four minims of the menstruum. Fourteen

drops were given at once, and subsequently nine drops every two hours. In four hours a troublesome spasmodic contraction of the neck of the bladder was overcome, a quart of urine was passed voluntarily, and the pulse fell from 104 to 80. His general condition, however, remained about the same. The remedy was continued in large doses (eight drops every three hours) for fifteen days, when, as there was not much change for the better, fifteen drops were given every three hours for the entire day. The following day—the twentieth of the disease—the patient was able to leave his bed, ate with great appetite, and from that time progressed steadily to complete recovery.

**TINCTURE OF DIGITALIS AND CHLORAL HYDRATE IN DELIRIUM TREMENS** (*Boston Medical and Surgical Journal*, October 16, 1873).—Dr. E. Chenery records the case of a Scotchman, aged 35, who, when first seen, had neither taken food nor slept for nearly a week, during which time he had been on a continuous debauch. His mind was greatly agitated, his muscular system in a state of unrest, and his pulse feeble and frequent. A strong mustard plaster was applied to the pit of his stomach, fifteen grains of chloral were given, and in twenty minutes twenty drops of the tincture of digitalis. These were retained, and in ten minutes thirty grains of chloral were administered, and were followed by three hours of refreshing sleep. A raw egg and some milk were then given, with another portion of digitalis, and in a short time thirty grains more of chloral. This time he passed off into a sleep of many hours, from which he awoke much relieved. Small doses of digitalis were continued for several days, partly to reduce the pulse, but principally for the sake of the eliminative action on the kidneys.

**Poisoning by Red Precipitate** (*Irish Hospital Gazette*, October 15, 1873).—Mr. Russell reports the case of a girl, aet. 15, who by mistake took half an ounce of red precipitate. She was admitted to the hospital a few minutes afterwards, having no urgent symptoms whatever. An emetic of sulphate of zinc was administered, and abundance of milk was ordered as diet. The following day her lips, gums, and mouth were very sore, swollen, and reddened, she had a distinct mercurial fœtus from her breath, with headache, and pain in the epigastrium. She was ordered thirty minimis of Battley's sedative liquor, an alum gargle for her mouth, and poultices to the epigastrium. She began to improve immediately, her bowels were gently moved by a dose of castor oil, and she had no further trouble from the effects of the drug, except that in about a week she lost two front teeth, and her mouth remained slightly sore for a few days longer.

**INFANTICIDE** (*The Lancet*, October 11, 1873).—Dr. W. Handsel Griffiths calls attention to the fact that a sharp instrument, such as a needle or bodkin, can be thrust up under the upper eyelid of an infant, made to pierce the orbital plate of the frontal bone, enter the brain, and cause death with no other symptom than a convulsion, and not only leaving no external mark whatever, but causing neither a fracture of the bone nor the escape of a single drop of blood. In experiments on animals Dr. Griffiths has found the utmost difficulty in detecting the wound on making a post-mortem examination; and he suggests that in cases of sudden death of infants from "convulsions" it is the duty of the medical man to make an autopsy as soon as possible, and investigate minutely the state of the orbital walls.

**WOUND OF THE ABDOMEN** (*British Medical Journal*, October 11, 1873).—Mr. W. Nettle reports the case of a boy, aged 16, who while climbing over a gate slipped and fell on one of the iron spikes with which its top was covered. He at first felt sick and faint, but soon

recovered, and walked home, and did not discover, until undressing for the night, that he was wounded. There was in the left inguinal region an opening about an inch in length, through which protruded a tightly-constricted piece of omentum. This was replaced, the wound closed by sutures, and the boy sent to bed, which he left in a fortnight perfectly well.

**EFFECTS OF PRESSURE ON THE FETAL HEAD** (*British Medical Journal*, October 18, 1873).—Dr. J. Matthews Duncan reports a case in which a persistent digital impression was produced on the parietal bone of a fetus during birth by the finger of the accoucheur, who was endeavoring to effect artificial rotation. The result was slight, short, but frequently repeated epileptiform seizures, which lasted some time after the digital impression had disappeared, and which were finally replaced by choreic movements.

**THE MEDICAL VALUE OF ARTERIAL PRESSURE.**—In experimenting with the sphygmograph, some years ago, Mr. Edward De Morgan made the following deductions, which, with their practical application, he now makes public. When pressure is applied to both axillary and femoral arteries, about half the blood in the systemic or greater circulation is withheld. The remainder returns to fill the left ventricle of the heart, which either contracts upon half its normal amount of blood or delays its systole until sufficient blood has returned from the unobstructed vessels to distend it to its normal contracting volume. In the latter event the pulse would be diminished in frequency and increased in fulness: the sphygmograph, however, shows that this is not the case when the arteries are compressed. Hence it follows that the left ventricle contracts upon half its normal quantity of blood, that the right ventricle does likewise, and that, the area of the pulmonary or lesser circulation being undiminished, the pulmonary artery contains but half its proper amount of blood, which must therefore speed through it less rapidly and with diminished pressure upon its walls.

Mr. De Morgan determined to apply this theory in the haemoptysis of consumptive cases, in traumatic pulmonary hemorrhage, as a direct *dry cupping* of the lung in inflammatory diseases, and, on the supposition that damming back venous blood from the lungs would diminish the necessity of oxygenation, in spasmodic asthma and cardiac and emphysematous dyspnoea. He briefly records the results of a few cases in which he obtained great success by this plan of treatment. In a patient with a bullet-wound of the left lung, and with great pneumothorax and haemothorax, axillary pressure gave immediate relief to the dyspnoea. In a young lady with spasmodic asthma the paroxysm was cut short by the application of the thumbs to the axillary arteries; and the same means instantly relieved the suffocative distress of an old gentleman with chronic bronchitis and emphysema. Mr. De Morgan has found that cardiac dyspnoea is not benefited in nearly the same degree as that of pulmonary origin, but that in the latter relief is immediate and unfailing.—*The Lancet*, September 20, 1873.

**PROFESSOR BETZ'S METHOD OF MAKING SECTIONS OF NERVOUS TISSUE** (by Dr. Batty Tuke).—Professor Betz, of Kiew, has lately produced brain-sections which have attracted very considerable attention in Vienna. His specimens are of vast extent. He appears to be able to produce thin sections of an entire hemisphere. We append his method of hardening and cutting as it is stated in the "Correspondenz Blatt der deutschen Gesellschaft für Psychiatrie und gerichtlich Psychologie," January, 1873. The method of hardening which we wish to bring into notice is as follows,—observing that differences exist in the treatment of the spinal cord,

cerebrum, and cerebellum. The spinal cord, after the careful removal of the dura mater, is placed in spirit of from seventy-five to eighty per cent., which is tinged a clear brown color by the addition of iodine. After from one to three days, during which the preparation must stand in a cool temperature, the pia mater and the arachnoid are also removed, the specimen remaining in the spirit, to which a few drops of iodine must be added daily for three days, maintaining an ordinary temperature. It is then transferred to a three per cent. solution of chromate of potass, and back again to the cool temperature. Here it hardens thoroughly, which is known by the fluid becoming turbid, and by the formation of a brown deposit upon the preparation. When this occurs it must be immediately thoroughly washed with water, and immersed in a solution of chromate of potass, from a half to one per cent. strength, in which it will not become too hard or brittle.

Preparations of cerebellum can only be made when it has been taken from a perfectly fresh body. Before immersing it in the iodine spirit, the vessels and membranes must be carefully removed, especially at the vermiciform process and the "square lobes;" and cotton wool should be stuffed into the sulci on either side of the process, the rhomboidal groove, and the nates and testes, should they be in the specimen, so as to render the passage of fluid into the deeper parts more easy. The preparations should rest on cotton wool. The iodine spirit should be quickly increased in strength. After from seven to fourteen days the specimen should be placed, provided it does not give to the finger, in a five per cent. solution of chromate of potass.

The great brain, after being divided in half through the length of the corpus callosum, is laid in weak iodine spirit. After some hours the separation of the membranes in the fissure of Sylvius, and at the tail of the corpus callosum, should be commenced, so as to allow of the permeation of the spirit. The preparation must stand in a cool place (during summer in an ice-cellaret). After from ten to fourteen days it is removed to a four per cent. solution of chromate of potass. When sections are to be taken, it must be washed carefully in water.

*The Cutting of Sections.*—Betz endeavors to avoid all rubbing of the knife on the surface of the preparation, and sticking of the section on the upper surface of the blade. To this end he has had constructed a knife whose upper surface is convex, the under one concave, the radius of the lower one being somewhat smaller than that of the upper. The blade is from one and a half to twice as long as it is broad, the thickness being one-third of the breadth. For large cross-sections, as for instance through the whole hemisphere, Betz uses a knife whose blade is twenty-one centimetres (eight and a quarter inches) long by ten centimetres (four inches) broad. This form of knife (hatchet?) makes it possible to keep the surface of the preparation and the section constantly wet by means of dropping spirit, so that rubbing on the one and sticking of the other may be avoided.

Details are given of the form of section-machine, which, except of course in size, is constructed on the same principle as the one in use in this country.—*London Journal of Mental Science.*

**CHLORAL IN NOCTURNAL INCONTINENCE OF URINE.**—Dr. William Thompson gives the following directions for the employment of chloral in nocturnal incontinence. 1. Only give it at night, the patient having fasted for two hours before going to bed. 2. Give it in full doses and when in bed. 3. Let the patient have as little fluids as possible; beer and spirits to be positively prohibited. 4. Not to be continued longer than a week or ten days: if benefit is not derived within that period, the case is either not one of incontinence depending

on habit solely, or the peculiar idiosyncrasy of the patient prevents the beneficial action of the chloral.—*The Lancet*, September 20, 1873.

**MAGNESIA AS A SURGICAL DRESSING.**—Dr. Ohlmeyer, of Weissenburg, has found the carbonate of magnesia of value,—

1. In atonic ulcers.

2. In cases where the epidermis was eroded and the subjacent tissues were the seat of pain and were prone to subsequent suppuration.

3. In relieving the pain of inflamed wounds.

4. In cases where it was desirable to stimulate the affected surface, prevent the access of air, and limit the formation of pus. He was led in the first instance to try this remedy from its well-known action in those states of the stomach where there is an excessive formation of acids. These latter, uniting with the base magnesia, are neutralized, and carbonic acid evolved. Accordingly, he believes that in exposed surfaces where the process of healing is prevented by fermentative action, this dressing is indicated. The use of it was attended with satisfactory results. The magnesia unites with the acids which form on the surface; it excludes the oxygen, forms an artificial covering, irritates the granulations, and forms a barrier against external and harmful agents.

In preparing the application he selects a fluid that will not readily oxidize. Oil answers this indication, and the kind he employs is the oil of sweet almonds. Adding to this the carbonate, he makes a tolerably fluid paste of salve. This is then spread upon linen and laid over the wound. It is held in place in the ordinary way.

Dr. Ohlmeyer also adds that he has used the carbonate successfully in facial erysipelas, when it was important to protect other patients from infection. In this latter case he used water as a substitute for oil.—*The Clinic, from Allg. Med. Central-Zeit.*, xlvi., 1873.

**ADMINISTRATION OF PODOPHYLLIN** (*British Medical Journal*, October 18, 1873).—A. E. Barret recommends the following formula when it is necessary to give podophyllin:

R Podophyllin, gr. ivss;  
Extracti elaterii, gr. ivss;  
Pulv. jalapæ comp., 3vj.—M.

Half a drachm of this powder in half a pint of warm water acts most effectually, the cholagogue effects of the podophyllin seeming to be assisted by the hydragogue. Its use is not apt to be followed by constipation.

## MISCELLANY.

A RECENT writer in *The Belgravian*, in an article on toads, says, "Any book of folk-lore will show how much the medicine of the mediæval period dealt with all kinds of reptiles and other such 'uncanny animals' as hedge-hogs, bats, owls, and other weird and darkness-loving things. Serpents, we know, were sacred to Æsculapius, not on account of their supposed wisdom or subtlety, but by reason of their yearly renovation in a change of skin; and it would seem that all the reptiles of the lizard and frog classes, which inherit some share of the enmity sown in Eden between the seed of the woman and the seed of the serpent, inherit also some part of this affinity between snakes and the practice of medicine. I find that the homœopaths of the present day retain at least one drug obtained from

snakehood,—'lachesis,'—which is said to be the poison of the lance-headed viper, though it may perhaps be doubted whether their chemists have really supplied their vials from the poison-bag of that interesting reptile. They also use the sepia of the cuttle-fish; and I have often been struck by the appropriateness of sepia as a medical emblem. I observe that doctors, when hard pressed in argument, always escape in a flood of hard words, like the cuttle-fish, protected and concealed by the blinding inky trail it leaves behind it."—*Littell's Living Age*.

**PROSTITUTION IN JAPAN.**—Japan has many "soiled doves;" and, among the social reforms of last year, it has freed them from the obligation of their contracts, to which in many cases, according to the last consular report, they "had never been willing parties." The uncaging, however, has been effected without due regard to consequences, and their escape from the brothel-keepers and subsequent flight through the settlements has converted them into "carrier-pigeons" of a very dangerous breed, distributing disease right and left among natives and foreigners. Thanks to Staff-Surgeon Hill, R.N., in charge of the Lock Hospital at Kanagawa, whose post would have declined into a sinecure from the hasty action of the authorities, street-prostitution has been suppressed, and the majority of the women gradually disbanded and sent to their homes either in the neighborhood of Yokohama or at a distance from it. Under the new system, each woman pays a license-fee of three dollars a month to the local government; but Dr. Hill views with regret the action of the authorities in compelling the women to pay their own Lock Hospital expenses. The consul at Kanagawa is in hopes that a portion at least of the revenue thus derived, which is likely to amount to some 30,000 or 40,000 dollars per annum, may be applied to the relief of the unfortunate class.—*The Canadian Medical Times*.

**TO COOK RICE.**—The following is an account, taken from an old number of the *Gazette des Hôpitaux*, of the method recommended by the French Academy for cooking rice, during the siege of Paris. Take one cup of rice and one-fourth of a cup of water in a saucepan, cover and place over a good fire; after an hour the water will be evaporated, and the rice cooked tender, but dry, and with the grains distinct,—not in a paste. Sufficient salt should be added in the first place, and care should be taken not to disturb the rice whilst cooking.

By adding a little butter, and allowing the rice to dry a little more over a gentle fire, a more delicate dish is prepared.

Rice cooked in this manner, which is the same as that employed in the East Indies, bears the same relation to the indigestible paste of the New England kitchen as does bread to boiled flour.—*Boston Medical and Surgical Journal*.

**PREVENTION OF TORMENTING OF HORSES, ETC., BY FLIES.**—M. Lochard, a veterinary surgeon, describes a simple and economical means of preventing the suf-

ferring which is induced in horses and other animals by the persecution of flies, and which our provincial readers will probably be induced to try. It consists in painting with a pencil the insides of the ears, or other parts liable to be bitten, with a few drops of empyreumatic juniper oil (*huile de cade*). Insects will not approach the parts so painted, and the cost of the oil is trifling.—*The Clinic; from Journal de Connaissances Méd.*

**THE SIX FOLLIES OF SCIENCE.**—The six follies of science are said to be the following: the quadrature of the circle; the establishment of perpetual motion; the philosopher's stone; the transmutation of metals; divination, or the discovery of secrets by magic; and, lastly, judicial astrology. It is unwise to say that anything is impossible, until the impossibility is demonstrated. It is not at all improbable that the present century may see that one of these so-called follies is a reality.—*Journal of Applied Sciences*.

THE value of roasted coffee as a disinfectant, or rather deodorizer, is well known to housewives. In the London *Lancet* of October 25, Dr. William Story commends it highly as an application to foul ulcers.

## NOTES AND QUERIES.

A CORRESPONDENT suggests that there be a department of Notes and Queries in the *Philadelphia Medical Times*. Although somewhat doubtful as to whether there is any demand for such department, i.e., whether sufficient queries will be presented to make it lively, we are willing to try the experiment. We would like to combine with it a department for original tried formula, because no doubt some queries will be in such direction, and would ask our readers to furnish any they may have.

*Correspondent.*—What is meant by the expression "hydatids with echinococcus," used in a recent book notice?

*Answer.*—The expression is somewhat tautological, as all hydatids contain echinococci or their remains. Perfect echinococci, with the sac and hooklets, are often not to be found; and we suppose the expression meant that they were present.

## OFFICIAL LIST

### OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM NOVEMBER 18, 1873, TO NOVEMBER 24, 1873, INCLUSIVE.

**ABADIE, E. H., SURGEON.**—To report by letter to the Commanding General Military Division of the Atlantic, for assignment to duty. S. O. 230, A. G. O., Nov. 18, 1873.

**BILL, J. H., SURGEON.**—Granted leave of absence for three months on Surgeon's Certificate of Disability. S. O. 231, A. G. O., November 19, 1873.

**ALDEN, C. H., SURGEON.**—Assigned to duty at Fort Walla Walla, Wyoming Territory. S. O. 157, Department of the Columbia, November 6, 1873.

**WEBSTER, WARREN, SURGEON.**—Assigned to duty at Angel Island, California. S. O. 133, Department of California, November 4, 1873.

**HUNTINGTON, D. L., ASSISTANT-SURGEON.**—Assigned to duty at Fort Stevens, Oregon. S. O. 157, Department of the Columbia, November 6, 1873.

**KOERPER, E. H., ASSISTANT-SURGEON.**—To report by letter to the Commanding General Military Division of the Atlantic, for assignment to duty. S. O. 230, c. s., A. G. O.

**STYER, CHARLES, ASSISTANT-SURGEON.**—Granted leave of absence for thirty days, with permission to leave limits of Department and apply at Division Headquarters for an extension of thirty days. S. O. 200, Department of the South, November 19, 1873.

**WIGGIN, A. W., ASSISTANT-SURGEON.**—Assigned to duty at Fort Vancouver, Wyoming Territory. S. O. 157, Department of the Columbia, November 6, 1873.